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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,287	10/08/2003	Guy Riddle	5629 413454/030	3098

7590 05/18/2005

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P.O. Box 22307
Santa Barbara, CA 93121

EXAMINER

XU, LING X

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,287

Applicant(s)

RIDDLE, GUY

Examiner

Ling X. Xu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 32-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/9/2003.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The use of the trademark ARONITE has been noted in this application on page 2 of the specification. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Double Patenting

- 2 A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Applicant is advised that should claim 9 be found allowable, claim 10 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

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3 The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-31 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/960,468. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims in the copending application recite a printable decorative structure comprising the similar substrate formed of cenospheres in the form of ceramic balloons with same size and same bonding agent as recited in the claims of the present application. The fly ash recited in the present application is considered to one of the cenospheres claimed in the copending application. The decorative structure claimed in the present application encompasses the printable decorative structure recited in the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims in the present application recite that the coating layer having at least one of a coefficient of thermal expansion substantially equal to that of the substrate and an expansion characteristic configured to substantially absorb any difference in the coefficient of thermal expansions between the coating layer and the substrate, and substantially eliminate any physical deformation between the substrate and coating layer. However, specification does not provide sufficient description regarding what kind of the coating materials would meet the physical characteristics as stated above and recited in the claims. Therefore, it is unclear what kind of material is suitable or not suitable for the coating layer, which would provide the physical characteristics as claimed.

The specification also does not provide sufficient description regarding the treatment material as recited in claims 8-11 and 22. Therefore, it is unclear if the coating materials alone would meet the physical characteristics as recited in the claims or the combination of the coating materials and the treatment material would meet the physical characteristics as recited in the claims.

5 The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear if the size of about 50-500 microns is referred to the individual ceramic balloon in diameter, the thickness of the substrate, or the thickness of the ceramic balloons as a whole.

It is also unclear if the individual ceramic balloon coated with the bonding agent or the ceramic balloons as a whole coated with the bonding agent.

It is also unclear if the bonding agent forms an open cell structure of ceramic micro balloons on the outer surface of the substrate or the substrate has an open cell structure of ceramic micro balloons on at least one of its outer surface.

There is insufficient antecedent basis for the limitation of "said at least one outer surface having at least one of a coefficient of thermal expansion..." in line 8. It is also unclear if the "at least one outer surface having at least one of a coefficient of thermal expansion" in line 8 is referred to the surface of the substrate. It is also unclear if there is more than one coefficient of thermal expansion.

It is also unclear if the "forming an exterior outer surface having a fabricated ornamental appearance" is referred to an additional layer formed on the coating layer applied to the outer surface of the substrate.

It is noted that claims 1 and 8-17 merely recite the physical characteristics of the substrate and the coating layer and not setting for the specific compositions which would meet

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these characteristics render the claims indefinite since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics. The claims are too broad and indefinite since it purports to cover everything, which will perform the desired functions regardless of its composition, and it appears to read upon materials that could not possibly be used to accomplish purposes intended. *Ex Parte Slob* (PO BdApp) 157 USPQ 172.

In claims 2-3, it is unclear if the size of about 50-300 or 200 microns is referred to the individual ceramic balloon in diameter, the thickness of the substrate, or the thickness of the ceramic balloons as a whole.

In claim 4, it is unclear if the thermal setting polymer includes the amine cured epoxy and epoxy resin, and the epoxy resin includes amine cured epoxy resin.

In claim 11, it is unclear if the thin coating material finishing layer recited in line 5 is the same as the coating layer recited in line 1 of the claim. It is also unclear if the coating layer forming an exterior outer surface having a fabricated ornamental appearance recited in line 10 is the same as the coating layer recited in line 1 of the claim.

In claims 11, lines 2, it recites "the coating layer is configured of a at least one of a coating material." It appears that the sentence is incomplete.

In claim 16, it is unclear what the term "Thermal K" is referred to.

In claim 17, lines 2, it recites "said substrate is configured to have a the Glass Transition Temperature." It appears that the sentence is incomplete.

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In claim 19, it is unclear if the size of about 50-500 microns is referred to the individual ceramic balloon in diameter, the thickness of the substrate, or the thickness of the ceramic balloons as a whole.

It is also unclear if the individual ceramic balloon coated with the bonding agent or the ceramic balloons as a whole coated with the bonding agent.

It is also unclear if the bonding agent coat forms an open cell structure of ceramic micro balloons on the outer surface of the substrate or the substrate has an open cell structure of ceramic micro balloons on at least one of its outer surface.

It is also unclear if there is more than one coefficient of thermal expansion for the coating layer.

It is noted that claims 19 and 22 merely recite the physical characteristics of the substrate and the coating layer and not setting for the specific compositions which would meet these characteristics render the claims indefinite since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics. The claims are too broad and indefinite since it purports to cover everything, which will perform the desired functions regardless of its composition, and it appears to read upon materials that could not possibly be used to accomplish purposes intended. *Ex Parte Slob* (PO BdApp) 157 USPQ 172.

In claims 20-21, it is unclear if the size of about 50-300 or 200 microns is referred to the individual ceramic balloon in diameter, the thickness of the substrate, or the thickness of the ceramic balloons as a whole.

In claim 26, it is unclear what the term "Thermal K" is referred to

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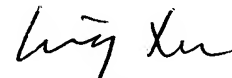
In claim 31, the use of the trademark "Aronite" has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ling X. Xu
Examiner
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